CHAPTER 3
WATER SUPPLIES WITHIN WFA'S SERVICE AREA

3.1 Overview

This chapter describes the past, current and future water resources available to the WFA and to its retail agencies. For more detailed information on area's historic water supply trends and past, current and future local supplies, please refer to Chapter 3 of the IEUA 2010 UWMP.

3.2 Historic Water Supplies within WFA's Service Area

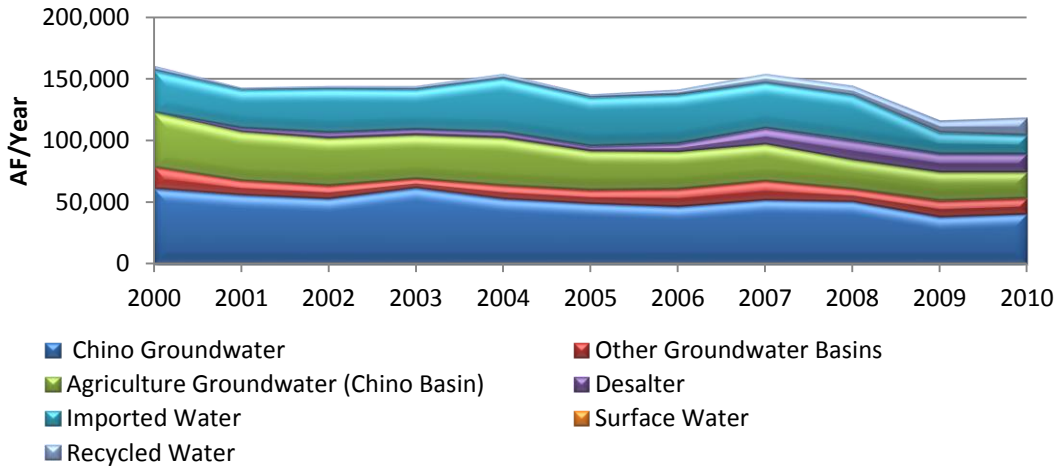
The urban water used in WFA's service area comes from both imported and local sources. Imported water is purchased by WFA through MWD (via IEUA) and is comprised primarily of State Water Project deliveries. WFA provides treatment to the imported water before delivering this wholesale supplemental supply to its member agencies. Local sources of water supply for WFA's member agencies include groundwater, surface water, desalinated water and recycled water. Total water production by source, including agricultural water pumping, within WFA's service area is summarized in Table 3-1.

Table 3-1
Total Water Production (AFY) by Source Within WFA Service Area

	Fiscal Year Ending June 30					
Water Source	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**
Chino Basin Groundwater	61,183	55,931	53,027	61,601	52,873	49,062
Other Basin Groundwater	17,406	11,684	10,609	7,532	10,930	10,947
Surface Water	346	1,999	1,499	1,155	1,364	467
Imported Water	33,617	30,813	35,292	32,094	43,517	39,240
Recycled Water	4,014	1,863	2,398	2,922	3,762	2,814
Desalter	0	3,213	4,519	4,778	4,696	3,904
Agricultural use	44,242	39,285	38,196	35,168	38,192	31,505
Total	**160,809**	**144,789**	**145,540**	**145,250**	**155,334**	**137,939**
	Fiscal Year Ending June 30					
Water Source	**2006**	**2007**	**2008**	**2009**	**2010**	
Chino Basin Groundwater	46,572	51,914	50,616	38,241	40,835	
Other Basin Groundwater	14,211	15,495	10,330	13,148	12,680	
Surface Water	467	2,199	2,074	1,589	1,992	
Imported Water	39,366	36,503	33,572	16,936	14,864	
Recycled Water	4,286	7,624	8,129	9,965	14,569	
Desalter	6,449	12,904	15,301	14,810	14,810	
Agricultural use	30,253	29,653	23,539	23,277	21,043	
Total	**141,604**	**156,291**	**143,561**	**117,966**	**120,793**	

Over the past ten year period, total water use within the WFA service area has ranged from a low of 118,000 acre-feet per year to a high of 160,000 acre-feet per year. The relative contribution of groundwater, surface, imported, recycled and desalter water is shown in Figure 3-1.

Figure 3-1
Historical Water Use Within the WFA Service Area (AFY)



Although not served by WFA, groundwater is the predominate source of water supply used in WFA's service area, and provided about 60-70% of the water supply on average over the past ten years. Imported water is the next largest category, and ranges from 20-30% of the water supplies with WFA's service area depending on the water year. About 5-10% of the water supply comes from recycled water which is a growing source of new supply for the area. Surface water from the San Gabriel Mountains comprises a small portion of the water used within the service area. Chapter 3 in the IEUA 2010 UWMP provides a detailed description of each of these sources of water.

The following tables provide a break out by each WFA member agency on the local water production by source between 2000 and 2010.

Table 3-2 (a)-(e)
Historical Local Water Production within WFA Service Area

(a) Chino Basin Groundwater Supply (AFY) Within WFA Service Area

Entity	Fiscal Year Ending June 30					
	2000	2001	2002	2003	2004	2005
City of Chino	10,201	7,147	5,613	6,020	6,282	6,096
City of Chino Hills	4,264	4,063	3,398	6,799	7,671	6,108
City of Ontario	36,523	33,988	31,968	35,050	29,214	28,620
City of Upland	1,570	1,566	2,390	5,026	1,926	1,674
Monte Vista Water District	8,626	9,166	9,658	8,707	7,781	6,668
Total Chino Basin Groundwater	**61,184**	**55,930**	**53,027**	**61,602**	**52,874**	**49,166**

Entity	Fiscal Year Ending June 30				
	2006	2007	2008	2009	2010
City of Chino	5,932	8,909	7,608	8,489	7,808
City of Chino Hills	2,314	5,190	5,460	7,491	7,591
City of Ontario	29,788	28,014	25,988	31,531	23,003
City of Upland	1,394	1,271	2,967	3,674	3,410
Monte Vista Water District	7,145	8,530	8,592	8,875	9,637
Total Chino Basin Groundwater	**46,573**	**51,914**	**50,615**	**60,060**	**51,449**

(b) Groundwater Supply (AFY) from Other Basins Used Within WFA Service Area

Entity	Fiscal Year Ending					
	2000	2001	2002	2003	2004	2005
City of Upland	17,706	11,684	10,609	7,532	10,930	10,947
Total Other Groundwater	**17,706**	**11,684**	**10,609**	**7,532**	**10,930**	**10,947**

Entity	Fiscal Year Ending				
	2006	2007	2008	2009	2010
City of Upland	14,211	15,495	10,330	12,680	10,573
Total Other Groundwater	**14,211**	**15,495**	**10,330**	**12,680**	**10,573**

(c)Surface Water Supply (AFY) Within WFA Service Area

Entity	Fiscal Year Ending					
	2000	2001	2002	2003	2004	2005
City of Upland	346	1,999	1,499	1,155	1,364	467
Total Surface Water	**346**	**1,999**	**1,499**	**1,155**	**1,364**	**467**

Entity	Fiscal Year Ending				
	2006	2007	2008	2009	2010
City of Upland	467	2,199	2,074	1,589	1,992
Total Surface Water	**467**	**2,199**	**2,074**	**1,589**	**1,992**

(d) Recovered Water Supply from CDA Desalters (AFY) Within WFA Service Area

Entity	Fiscal Year Ending					
	2000	2001	2002	2003	2004	2005
City of Chino	0	1,488	2,773	2,835	2,802	2,654
City of Chino Hills	0	1,725	1,746	1,944	1,895	1,250
City of Ontario	0	0	0	0	0	0
Total Recycled Water	**0**	**3213**	**4519**	**4779**	**4697**	**3904**
Entity	**Fiscal Year Ending**					
	2006	**2007**	**2008**	**2009**	**2010**	
City of Chino	4263	4690	5456	5,045	5039	
City of Chino Hills	2095	3253	4431	4,508	4395	
City of Ontario	92	4,962	5,415	5,257	5,304	
Total Recycled Water	**6,450**	**12,905**	**15,302**	**14,810**	**14,738**	

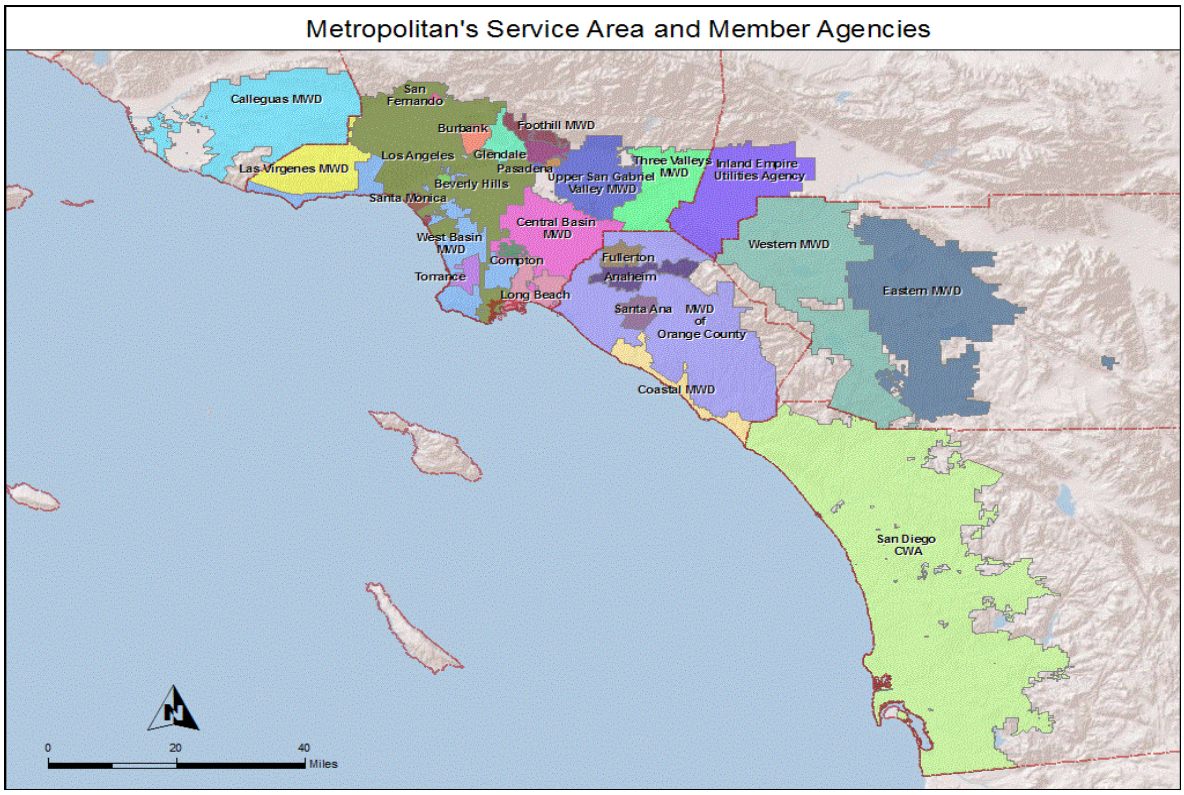
(e) Recycled Water Supply (AFY) Within WFA Service Area

Entity	Fiscal Year Ending					
	2000	2001	2002	2003	2004	2005
City of Chino	368	293	368	958	1,544	830
City of Chino Hills	129	569	798	767	1,058	815
City of Ontario	3,517	1,001	1,232	1,197	1,160	1,169
City of Upland	0	0	0	0	0	0
Monte Vista Water District	0	0	0	0	0	0
Total Recycled Water	**4,014**	**1,863**	**2,398**	**2,922**	**3,762**	**2,814**
Entity	**Fiscal Year Ending**					
	2006	**2007**	**2008**	**2009**	**2010**	
City of Chino	1,752	2,304	2,897	4,626	7,157	
City of Chino Hills	948	1,631	1,479	1,285	1,494	
City of Ontario	1,587	3,673	3,753	3,955	5,678	
City of Upland	0	17	0	0	0	
Monte Vista Water District	0	0	0	100	240	
Total Recycled Water	**4,286**	**7,624**	**8,129**	**9,966**	**14,569**	

3.3 WFA Water Supply Sources

As previously discussed, the source water supply to WFA is State Water Project (SWP) water purchased from the Metropolitan Water District of Southern California through the Inland Empire Utilities Agency. WFA's treatment plant is connected to MWD's distribution system through the Rialto Feeder Pipeline. The water purchased by WFA is categorized as a "full service" supply. The MWD Service Area is shown in Figure 3-2.

Figure 3-2 MWD Service Area Map



The SWP is California's state-built water and power development and conveyance system. It includes pumping and power plants; reservoirs, lakes and storage tanks, canals, tunnels and pipelines that capture, store and convey water from northern California to southern California. The original State Water Contract called for an ultimate delivery capacity of 4.2 million acre-feet, with Metropolitan holding a contract for delivery capacity of about 2 million acre-feet.

MWD's 2010 Regional Urban Water Management Plan provides a detailed description of its facilities and the availability and reliability of its imported water supplies, including the SWP. Through its Plan and related planning documents, including the 2010 Integrated Resources Plan, MWD provides assurance that all full service demands will be satisfied under all "foreseeable hydrologic" conditions. In accordance with Water Code section 10631(k), the information, analyses and conclusions regarding the availability and reliability of imported water supplies from MWD to its member agencies (including IEUA and, in turn, to WFA) during normal, single-dry and multiple-dry year periods over the next 20-year planning horizon and beyond are expressly relied upon by WFA and this 2010 Plan and are incorporated herein.

Historic MWD deliveries to WFA are presented in Table 3-3 and shown on Figure 3-3. WFA made its first purchase of SWP water in 1988, delivering about 12,000 acre-feet per year. Firm full service purchases of SWP by WFA have grown from about 26,500

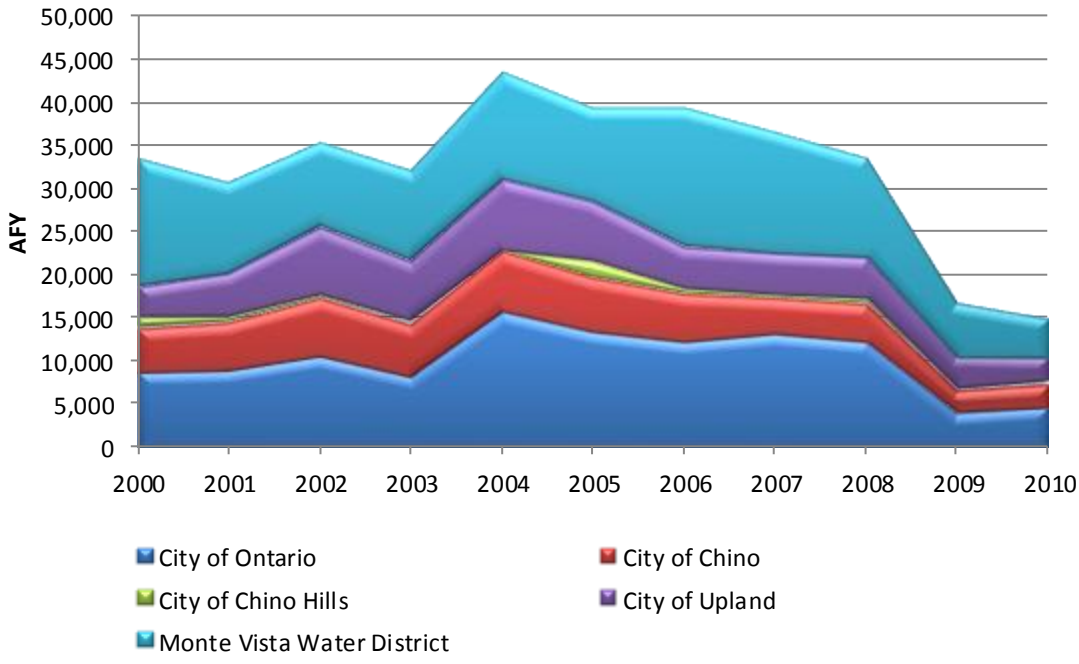
acre-feet per year in 1995 to approximately 40,000 acre-feet per year in 2005. The running average over the past seventeen years is about 30,000 acre-feet per year.

Table 3-3
Full Service Imported Water Supply From MWD used Within WFA Service Area

Entity	Fiscal Year Ending June 30					
	2000	**2001**	**2002**	**2003**	**2004**	**2005**
City of Chino	5,195	5,534	6,693	6,152	6,953	6,263
City of Chino Hills	1,013	423	291	60	28	1,879
City of Ontario	8,824	9,096	10,636	8,292	15,772	13,454
City of Upland	3,648	5,032	7,998	7,150	8,344	6,905
Monte Vista Water District	14,937	10,728	9,674	10,440	12,420	10,739
Total Full Service Imported	**33,617**	**30,813**	**35,292**	**32,094**	**43,517**	**39,240**

Entity	Fiscal Year Ending June 30				
	2006	**2007**	**2008**	**2009**	**2010**
City of Chino	5,592	4,280	4,443	2,721	2,756
City of Chino Hills	416	180	364	0	0
City of Ontario	12,340	13,222	12,328	4,191	4,883
City of Upland	4,952	4,818	4,891	3,731	2,759
Monte Vista Water District	16,066	14,003	11,546	6,293	4,466
Total Full Service Imported MWD Water	**39,366**	**36,503**	**33,572**	**16,936**	**14,864**

Figure 3-3
WFA Full Service Imported Water



3.4 Future Water Supply Strategy Within WFA's Service Area

The regional water management goal within both WFA's and IEUA's service areas is to maximize the use of local water supplies and minimize the need for additional imported water, especially during dry years and other emergencies when imported water is less reliable.

As discussed in the IEUA 2010 UWMP, the majority of the additional water supplies needed to meet the area's growing water needs will come primarily from groundwater, desalinated water and recycled water. Table 3-4 presents these projected water supplies. The quantities of these local supplies for urban use are projected to increase by about 57,000 acre-feet per year (41%) over the next twenty-five years (from 137,000 acre-feet per year in 2010 to an expected supply of 219,000 acre-feet per year in 2035).

Table 3-4
Projected Urban Water Supply By Source In WFA Service Area (AFY)

	Fiscal Year Ending June 30					
Source of Water Use	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**
Chino Basin Groundwater	64,813	77,676	83,382	89,287	94,726	104,629
Other Basin Groundwater	6,420	6,420	6,420	6,420	6,420	6,420
Imported Water	28,792	47,187	48,272	49,356	50,440	52,609
Surface Water	8,034	8,290	8,290	8,290	8,290	8,290
Recycled Water	15,030	18,941	21,532	23,979	26,426	30,023
Desalter Water	14,600	17,733	17,733	17,733	17,733	17,733
Total	**137,689**	**176,247**	**185,628**	**195,065**	**204,035**	**219,704**

The source of water supply by agency is presented in Table 3-5 for groundwater, recovered water by the Chino Basin Desalters, other basin groundwater, surface water, recycled water, and imported (MWD) water.

Over the next twenty-five years, overall need for full service imported water as a supplemental supply within WFA's service area is expected to increase from 26,800 to 52,600 AFY.

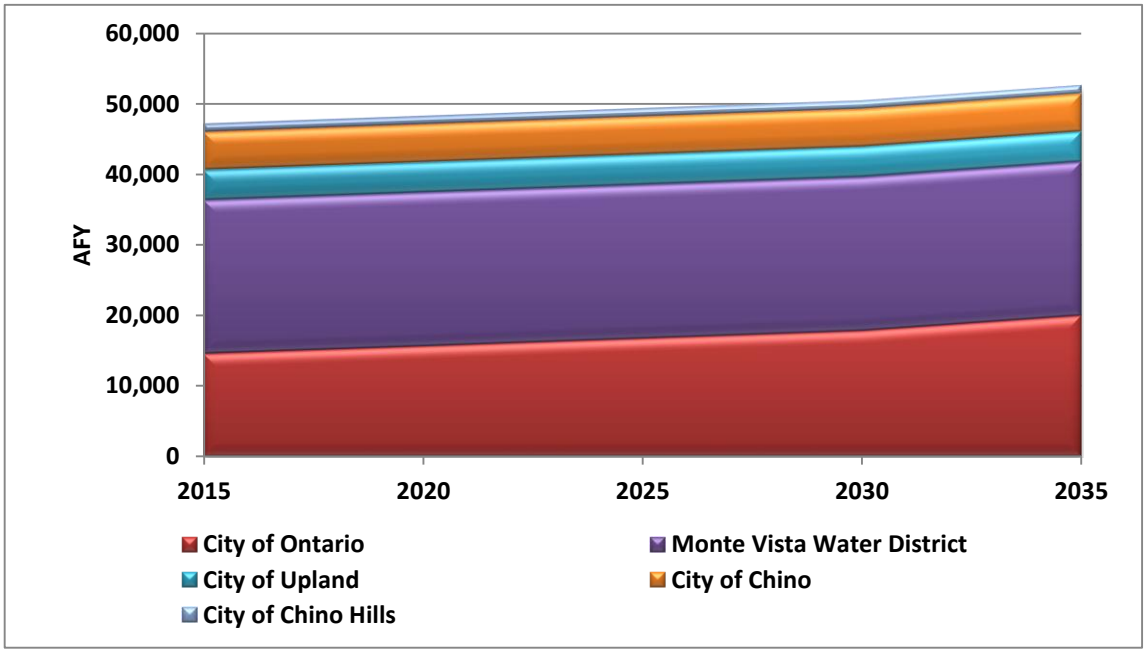
Over the past ten years, hundreds of millions of dollars has been spent to expand local supplies within the WFA service area. In particular the recycled water program and desalter program. These programs will continue to expand but nowhere near the same rate as they have in recent history. Chapter 3 of the IEUA 2010 UWMP provides a detailed description of each of the future local water supply sources.

Table 3-5
Projected Water Supply by Source for WFA Service Area (AFY)

Agency	Fiscal Year Ending June 30					
	2010	2015	2020	2025	2030	2035
Chino Basin Groundwater Supply						
Chino, City of	12,418	8,574	9,526	11,278	12,563	13,796
Chino Hills, City of	14,200	15,400	16,000	16,000	16,000	16,000
Monte Vista Water District	15,774	30,260	30,260	30,260	30,260	30,260
Ontario, City of	20,281	21,302	25,456	29,609	33,763	42,433
Upland, City of	2,140	2,140	2,140	2,140	2,140	2,140
Total	**64,813**	**77,676**	**83,382**	**89,287**	**94,726**	**104,629**
Chino Basin Desalter Water Supply (AFY)						
City of Chino	5,000	5,000	5,000	5,000	5,000	5,000
City of Chino Hills	4,200	4,200	4,200	4,200	4,200	4,200
City of Ontario	5,400	8,533	8,533	8,533	8,533	8,533
Total	**14,600**	**17,733**	**17,733**	**17,733**	**17,733**	**17,733**
Other Basin Groundwater Supply						
Chino, City of	0	0	0	0	0	0
Chino Hills, City of	0	0	0	0	0	0
Monte Vista Water District	0	0	0	0	0	0
Ontario, City of	0	0	0	0	0	0
Upland, City of	6,420	6,420	6,420	6,420	6,420	6,420
Total	**6,420**	**6,420**	**6,420**	**6,420**	**6,420**	**6,420**
Surface Water Supply						
Chino, City of	0	0	0	0	0	0
Chino Hills, City of	0	0	0	0	0	0
Monte Vista Water District	544	800	800	800	800	800
Ontario, City of	0	0	0	0	0	0
Upland, City of	7,490	7,490	7,490	7,490	7,490	7,490
Total	**8,034**	**8,290**	**8,290**	**8,290**	**8,290**	**8,290**
Recycled Water Supply						
Chino, City of	8,393	8,190	7,987	7,784	7,581	7,379
Chino Hills, City of	1,700	2,400	2,500	2,500	2,500	2,500
Monte Vista Water District	542	1,306	1,350	1,350	1,350	1,350
Ontario, City of	3,325	5,975	8,625	11,275	13,925	17,724
Upland, City of	1,070	1,070	1,070	1,070	1,070	1,070
Total Recycled Water	**15,030**	**18,941**	**21,532**	**23,979**	**26,426**	**30,023**
Full Service Imported Water Supply						
Chino, City of	5,353	5,353	5,353	5,353	5,353	5,353
Chino Hills, City of	1,200	1,200	1,200	1,200	1,200	1,200
Monte Vista Water District	4,465	21,776	21,776	21,776	21,776	21,776
Ontario, City of	13,494	14,578	15,663	16,747	17,831	20,000
Upland, City of	4,280	4,280	4,280	4,280	4,280	4,280
Total	**28,792**	**47,187**	**48,272**	**49,356**	**50,440**	**52,609**

Note: MVWD's surface water supply is purchased from San Antonio Water Company and may be a blend of surface and/or groundwater.

Figure 3-4
Projected Full Service Imported Water Supply



3.5 Future Reliability of Imported Water Supplies

The amount of State Water Project (SWP) available to MWD each year (and thus to WFA) is dependent upon a number of factors such as hydrologic conditions in northern California, the amount of water in SWP storage reservoirs at the beginning of the year, regulatory and operational constraints, and the total amount of water requested by contractors. Storage reservoirs help to make imported water available during low water months so that the amount of supply is not unduly impacted by the seasons.

Increasing challenges with respect to the quantity and quality of imported water that is available from the SWP and the Colorado River Aqueduct (CRA) have increased the costs of these supplemental supplies in Southern California as well as reduced their potential reliability. MWD is working with the State Water Project Contractors, the California Department of Water Resources and other state and federal agencies to develop and implement programs to increase the reliable yield from the SWP and CRA.

MWD has extensively evaluated the availability and reliability of these supplies and concluded that the combination of imported water and expanding local resource programs would ensure its service area's demands would be met in the future. WFA and IEUA expressly rely upon MWD's 2010 UWMP and other water supply planning documents in estimating future imported water availability and reliability to its service area (see Chapter 11). (Water Code section 10631(k).)

Metropolitan's Board of Directors has adopted the Water Surplus and Drought Management Plan (WSDM). The guiding principle of the WSDM Plan is to manage Metropolitan's water resources and management programs to maximize management to wet year supplies and minimize adverse impacts of water shortages to retail customers. From this guiding principle come the following supporting principles:

- Encourage efficient water use and economical local resource programs
- Coordinate operations with member agencies to make as much surplus water as possible available for use in dry years
- Pursue innovative transfer and banking programs to secure more imported water for use in dry years.
- Increase public awareness about water supply issues.

In February of 2008, Metropolitan's Board of Directors adopted the Water Supply Allocation Plan (WSAP). The WSAP was developed in consideration of the principles and guidelines described in the WSDM Plan, with the objective of creating an equitable needs-based allocation in the event of an MWD-declared shortage. The WSAP formula seeks to balance the impacts of a shortage at the retail level while maintaining equity on the wholesale level for shortages of MWD supplies of up to 50%.

The potential impact of global warming on SWP supplies has also been extensively evaluated by the California Department of Water Resources. It is difficult to predict the impact of the rising temperatures on the amount of rainfall that will occur in the future in California. Current modeling efforts show that significant increases in the amount of precipitation are possible but equally probable is a significant decrease in precipitation. However, it has projected that warming temperature will result in the loss of the snow pack at lower elevations and possibly in earlier runoff patterns. Both scenarios could reduce the future amount of water available from the SWP or change the timing when this water might be available. The regional water supply strategy being implemented with its emphasis on the development of additional future local water supplies will help ensure that WFA's service area has a balance of water resources available to it in the future. MWD's 2010 UWMP contains additional and comprehensive information and analysis concerning the potential effects of global climate change and other legal, regulatory, and environmental factors on MWD's water supply portfolio. That information and analysis, including MWD's conclusions regarding the availability and reliability of its supplies are relied upon by WFA and incorporated herein. (See additional discussion in Chapter 7.)